

REMARKS

Claims 1 through 11 have been rejected under 35 U.S.C 112 second paragraph as being indefinite. The Examiner has raised an issue regarding the meaning of "normal" on lines 12 and 13 of claim 1. In addition, he has raised an issue regarding an apparent inconsistency between the text of the claim stating that the test is independent of normal operation, while the specification states that the test is carried out during normal operation.

Responsive to these issues, claim 1 has been amended to delete the statement that the test travel of the lift cage is "independent of normal operation". As recited at page 4 of the specification, in the paragraph commencing at line 6, the present invention contemplates the testing of locking sensors associated with shaft doors on a periodic basis. The testing may be performed while the shaft doors are operated during "normal" operation of the system. By "normal" it is meant at a time that a shaft door is opened as a result of car travel to a floor or story for the purpose of receiving or discharging passengers in accordance with the intended operation of the lift. Alternatively, however, a locking sensor can be tested by the control circuit directing the lift car to a floor or story independently of such "normal" operation of the lift, i.e. specifically and solely for the purpose of testing the locking sensor associated with the story door and then actuating the lift doors solely for purposes of monitoring the operation of the locking sensor, and not for or associated with receipt of discharge of passengers. This is what is meant by a "test travel". Thus, the locking sensors can be tested both during "normal" operation as well as independently therefrom.

Claims 1-11 have also been rejected under 35 U.S.C. 103(a) as being unpatentable over Herkel et al '814. Applicants respectfully traverse the grounds of rejection and requests reconsideration thereof, in light of the following. In addition, Applicants offer new claims 12 through 16 to further distinguish the invention from the cited art. Support for each of these claims may be found at page 9 in the paragraph commencing at line 5. Other grammatical changes to claims have also been made.

As outlined above, the present invention is for a lift cage control system that provides for periodic testing of a locking sensor of a lift shaft door which has not been operated within a defined period of time by causing the lift cage to execute a test travel to the story having the otherwise-untested shaft door, and initiating an opening/closing of the shaft door solely to observe the signals produced by the

locking sensor associated with the shaft door. The travel to the floor is initiated out of “normal” operation of the lift. That is, travel to the floor is not initiated by a passenger call, a stop requested by a passenger, or otherwise intended by the lift system in anticipation of traffic flow, etc. The travel to the floor is solely for purposes of opening and closing the doors to test the locking sensor at the floor.

Herkel '814 (as well as all other references of record) neither teaches nor suggests the testing of the function of locking sensors of shaft doors which have not been operated within a defined period of time by automatically initiating such a test travel of the lift cage to the story associated with such shaft door, and opening/closing the shaft door while observing the signals produced by the locking sensor associated with the door.

The system disclosed by Herkel '814 is not capable of detecting whether locking sensors of a shaft which have not been operated for a relatively long time actually would provide a correct signal when the associated locking devices are operated. Herkel merely states that “every bus node is communicated with periodically, regardless of whether data is being provided by the bus node or not”. The cited statement simply means that the status of the bus nodes and thus of the locking sensors is periodically interrogated, even if there has not been any change in their status. It in no way suggests, indicates, or implies that the lift cage is automatically sent to a story whose shaft doors have not been operated within a defined period of time, solely for the purpose of actuating the doors to monitor locking sensor response. Herkel '814 contemplates only a passive test, monitoring the status of the locking sensors on a periodic basis, without determining whether the locking sensor is properly responding to an opening and closing of the associated shaft door. The present invention provides for such an actual opening and closing, as required, independent of traffic-dictated car and door operation.

The Examiner asserts that Herkel discloses the automatic initiation of a test travel independent of normal operation of a lift cage at column 3, lines 55-65. This is incorrect. The Herkel disclosure simply asserts that that status information is monitored to determine operating conditions. For example, if an emergency stop switch 62 is activated “emergency condition” processing is activated. If an inspection switch 61 is activated “inspection mode” processing is activated. Such mode activation is used by the controller to determine whether a potentially unsafe condition exists with respect to the elevator door switch 63. For example, if the car door 64 opens at a landing, such a condition is not unsafe, while a car opening as the

elevator moves is usually unsafe. Thus, the system is processing data and reacting to conditions that are monitored and determined solely during normal operation. The identified section provides no suggestion whatsoever that car travel is performed in a separate test mode to bring the car to a particular level or story for door opening and closing solely to test the functionality of the sensors. The Examiner's assertion that it is obvious that Herkel's testing is automatic and that a story whose shaft doors have not been operated will be tested by sending a lift cage to that story is without foundation. There is absolutely **no** support for such a conclusion from Herkel's disclosure itself.

New claims 12-16 are dependent claims, and further set forth means for carrying out alternative procedures when an unsafe or failed sensor is detected. As dependent claims they incorporate the limitations of independent claim 1 and are likewise allowable over the art of record.

Withdrawal of all rejections and passage to allowance of all claims is solicited.

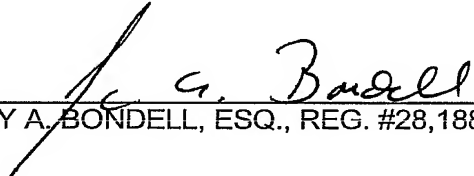
Respectfully submitted,

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